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A COLONY OF CAPE COD PIPING PLOVER.

BY C. A. ROBBINS.

THE Piping Plover (*Ægialitis meloda*) is the only beach-inhabiting member of the family that breeds within the limits of New England. To former generations of residents along the coast their rather plaintive call was a familiar summer sound. Then, because the gunner had marked them for his own, there came a time when long stretches of their breeding grounds grew silent and as the silence spread over an ever-lengthening area it began to be feared that they might — like other species of shore birds — entirely disappear.

Happily the fear is not likely to be realized. On the contrary, it is gratifying to note, in some places, a generous increase in their numbers.

This is due mainly to the protection which the law is now affording them, although the steadily growing interest in the welfare of all birds has doubtless aided, both directly and indirectly. It may pretty confidently be expected therefore that they will reappear in other localities which have long been bare of them and that in those most favorable there will be a return to something like their former abundance.

The shores of Cape Cod are mostly gentle slopes of clean beach with a belt of stony or pebbly sand extending back above the rows of drift, which mark the upper reaches of the tide, to a growth of beach-pea and sand-grass (*Ammophila*). This, in turn, often meets and over-runs a rise of low dunes beyond.

Spots of this kind are chosen by these birds for their summer homes. One such on the Bay side of the Cape and near its base, varying from the conventional character only in having on the inland side of the narrow wall of dunes a shoal brackish pond of an acre or more, has lately become really populous with them. On a section of beach bounded on one side by an inlet and on the other by a break in the chain of dunes and containing possibly four acres there were this past season (1918) not less than nine

pairs and broods while on an adjacent strip of beach of about the same extent nearly, if not quite, as many more were settled.

There are probably many who are unfamiliar with the species. To them, perhaps, the following,—resulting from frequent visits to the little colony,—may be of interest.

The earliest brood was running about on the morning of June 9. The birds were very small, having hatched probably earlier in the day or possibly on the day previous. The last hatching was around the 16th. All, or at least all within the bounded section, were in broods of three. By the middle of July old and young were flying in flocks. By the last of the month the majority had left; those that remained being either in small bands by themselves or else associated with the newly-arrived Ring-necks.¹

Most birds, even those that are gregarious through the greater part of the year, disperse more or less widely during the nesting period. These Plovers, however, nest comparatively close together. The young, therefore, of every brood from the time they are hatched are not only continuously associated with one another but as they range over the beach in search of food each is constantly brought into contact with members of other broods while the broods themselves gather into flocks as soon as the power of flight is acquired.

While this habitual association indicates, of course, a naturally strong social disposition and consequently a more than ordinary amount of sympathetic feeling, the continued companionship itself could hardly fail to develop the feeling still further. Hence there has been built up in the species a spirit of mutual protection.

This communal foster feeling occasionally manifests itself in a marked degree; as when, at a threat of danger, more than two adults join in driving a single brood up the beach and into the safety which the concealing color of the dry sand furnishes.

It is shown again by the number of old birds that attempt to distract attention from the same brood or even from a detached individual by feigning; creeping off with wings outstretched and fluttering, tail fanned and dragging or, if the need requires more

¹ There is, of course, no way of knowing that these later birds were from the summer colony. Possibly all those had moved along and the ones seen from time to time during the rest of the season were migrants.

extreme measures, collapsing utterly a short distance away as if completely exhausted.

They always make their nests on the dry upper beaches but, like various other shore birds, feed commonly along the water's edge where the moist sand teems with myriads of minute living creatures. Here, as they run back and forth, the comparatively dark background makes them conspicuous even from some little distance and, as if sensing this, the first hint of approaching danger sends them to the cover of the lighter colored beach above.

Concealment is the best means of protection the little birds possess. It is also largely depended upon by the adults during the nesting season and until the young are able to use their wings. A really remarkable correspondence has been developed between their color and that of the upper beaches; so perfect is it that it enables them to merge themselves into and become a practically indistinguishable part of the surrounding waste of sand. Hence birds to be kept under observation must be watched while they are in motion until they come to rest. If the eyes are diverted from one after it has settled much patience is apt to be required to locate it again although its whereabouts may be almost exactly known.

Their disappearance is due to the beach appearing to be uniformly of one color while actually it is not. The irregularities in its surface produce everywhere a multitude of shadow-points and lines and besides these shaded spots countless particles of dark colored material are mingled with the lighter sand. These contrasting colors are lost in the impression of sameness which the beach as a whole presents and thus, while the general tone of the upper parts of the bird matches that of the dry sand on which it crouches, the darker markings in its plumage fade into the background and become no more noticeable than the lines of shade they simulate. The eyes, which in the hiding bird of all ages are kept alertly open, are rendered inconspicuous not, perhaps, so much because they simulate shadow-points as because of their likeness to dark bits of beach content.

It is difficult to see whether or not the presence of stones or pebbles is an advantage to the bird. In all probability it is; yet the disappearance, at least so far as human vision is concerned,

seems to be as complete against a background of bare sand as against one over which stones are thickly strewn.

Of course it frequently happens that there is no time for concealment. Then, the young birds attempt to escape by running,—the tiny legs working with surprising rapidity and carrying them over the ground so swiftly and smoothly that they looked like balls of down blowing before the wind. Also, if their escape up the beach is cut off and they continue to be closely pressed they do not hesitate to take to the water. Even those only a few hours out of the shell swim well and navigate their frail craft if not with intelligence at least in a direction away from the source of danger. Obviously neither of these two modes of escape can afford them much security.

The earliest concealing actions must be wholly instinctive, but from them (which lead to a merely passive reliance upon concealment) there is a gradual transition to actions which are intelligently directed to make the concealment more effective. For instance, the very young when frightened run to a safe distance and simply sit motionless. Birds a week or more older not only run but usually *hide*; that is, they flatten themselves, head as well as body, on the sand, often (perhaps in the majority of instances) turning so as to face the danger point. Furthermore, the older fledglings will repeat the performance as often as occasion requires; a too near approach starts them running again and again and the concealing actions will be gone through any number of times. With those younger or less experienced there is as likely as not to be no further effort made to escape after the first; and this, as we have just seen, ends with no attempt toward concealment other than the negative one of sitting still.

One of these newly hatched youngsters that we came upon suffered his bill to be uptilted, his body to be prodded with the finger and even permitted himself without protesting to be picked up and held in the hand. All to no purpose; the machinery of his nervous system seemed to have run down and when he was returned to the ground he almost immediately settled into position again. Evidently concealment, throughout the history of the species, must have been generally successful; otherwise, it is hard to understand why the relation between the concealing actions and

the ensuing feeling of security should have become so firmly fixed.

As a mode of escape or protection, however, it is practised only so long as the birds are bound to a restricted area — the young by their inability to leave it, the old by the care which the nest and fledglings entail. As soon, therefore, as the young birds have acquired the full use of their wings both young and old alike seek the greater safety in flight.



BLACK DUCK NESTING IN BOSTON PUBLIC GARDEN.

BY HORACE W. WRIGHT.

THE first appearance of Black Ducks (*Anas rubripes tristis*) in the Public Garden, of which I am aware, was in the early morning of May 22, 1910, when a pair flew in, alighted on the pond among a family of Mallards (*Anas platyrhynchos*), and remained fifteen or twenty minutes, alert and watchful in their new surroundings. The parent Mallards at once became solicitous for their young brood, especially the mother who carefully kept herself between the female Black Duck and the ducklings. These ducklings had been hatched on May 12, nine in number, but four had been lost in the first few days of life on the pond, leaving five which were successfully reared. When the pair of Blacks left they were escorted on their way by the Mallard drake. The Black Ducks very probably came from the Back Bay Fens, where a considerable flock then wintered season by season. The building of the coffer dam to form the Charles River Basin and exclude tide water has resulted in the complete freezing up of the waters in the Fens in more recent years and an enforced absence of ducks in the winter. But about the intakes of reservoirs in the vicinity and on Leverett Pond, where the waters of Muddy River enter, Black Ducks in varying numbers still winter.

The following spring, 1911, a pair of Blacks came to the Garden on April 18, remained for a short time, watchful of any approach,